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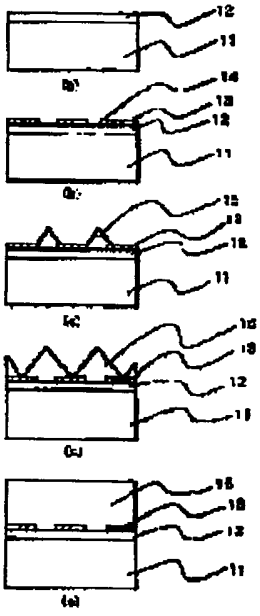
(54) METHOD FOR GROWING GROUP III-V COMPOUND SEMICONDUCTOR AND MANUFACTURE OF SEMICONDUCTOR LIGHT EMITTING DEVICE USING THE METHOD

(57)Abstract:
PROBLEM TO BE SOLVED: To provide a method of epitaxial growing by which very flat surface morphology can be obtained even in a III-V family semiconductor thick film, which is hetero-epitaxially grown on a hybrid substrate with different lattice constant and thermal expansion coefficient.
SOLUTION: A selective growth region is set through the use of a mask 13 on a substrate 11 having off-orientation of about 0.3° or more. A group III-V compound semiconductor exhibiting a lattice constant and a thermal expansion coefficient different from those of the substrate 11 is formed with facet construction in the region and the facet construction is grown, while it is embedded with the mask 13 to obtain a group III-V compound semiconductor film exhibiting extremely good planarity. Also, a semiconductor lamination including double-hetero joint is formed on the group III-V compound semiconductor film to obtain a light emitting device exhibiting very few crystal defects and a long device service life.



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